| Code No: R41045 | | de No: R41045 R10 Set N | o. 1 |
|-----------------|------------|--|-------------------|
| | | IV B.Tech I Semester Regular Examinations, December 2013 TELECOMMUNICATION SWITCHING SYSTEMS | |
| | | (Electronics and Communication Engineering) | \frown |
| T | ime | : 3 hours Max. M | arks: 75 |
| | | Answer any Five Questions | |
| | | All Questions carry equal marks **** | |
| 1 | a) | What is the need for Telecommunication Switching Systems? | [8] |
| | b) | Explain in detail the basic elements of the switching systems? | [7] |
| 2 | a) | What is the need for Combination switching? | [7] |
| | b) | Compare Combination switching with Electronic space division switching and Time division switching | 1 [8] |
| 3 | | Explain the Charging plan, Numbering plan and transmission plan in telecommunication networks | [15] |
| 4 | a) | What are the differences between In channel signaling and common channel signaling? | [8] |
| | b) | | |
| 5 | a) | Explain the Layered Network Architecture | [7] |
| | b) | Explain two point data communication circuit with neat sketch. | [8] |
| 6 | a) | Write short notes on packet switching. | [7] |
| | b) | What are the advantages and disadvantages of packet switching over circuit switching. | [8] |
| 7 | a) | Explain the functional grouping and reference points of ISDN | [8] |
| | b) | Explain the differences between ISDN and BISDN | [7] |
| 8 | • | Write short notes on the following a) SPC b) STS I c) SONET | [5] [5] [5] |

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| (| Cod | de No: R41045 R10 Set No | . 2 |
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| | | IV B.Tech I Semester Regular Examinations, December 2013 TELECOMMUNICATION SWITCHING SYSTEMS | |
| | | (Electronics and Communication Engineering) | |
| Ti | me | : 3 hours Max. Mar | :ks: 75 |
| | | Answer any Five Questions | |
| | | All Questions carry equal marks | |
| 1 | a) | Compare the Electronic Switching with the Manual Switching. | [8] |
| | b) | | [7] |
| 2 | | Explain in detail the Electronic space division switching | [15] |
| 3 | a) | Explain the Concept of Routing? | [7] |
| | b) | Explain the operation of Source routing bridge and transparent bridge | [8] |
| 4 | a) b) | Discuss about Signaling Techniques used by SS1, SS2, SS3, SS4, SS5 and SS5bis. Explain about the traffic load and Grade of Service | [7] [8] |
| | 0) | Explain about the traine load and Grade of Service | [0] |
| 5 | a) | What is the function of serial interface? Explain physical electrical and | |
| | b) | functional characteristics of the RS 232 serial interface. | [7] |
| | b) | What is the necessity of data communication standards? Explain | [8] |
| 6 | a) | Write short notes on Public switched data networks | [7] |
| | b) | Explain the differences between circuit switching, packet switching and virtual circuit switching. | [8] |
| 7 | a) | Explain the numbering and addressing formats of ISDN | [8] |
| | b) | Explain the protocol architecture of ISDN | [7] |
| 8 | | Write short notes on the following | |
| | | a) Traditional cable networks | [5] |
| | | b) LAN | [5] |
| | | c) CMTS | [5] |
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Set No. 3

IV B.Tech I Semester Regular Examinations, December 2013 TELECOMMUNICATION SWITCHING SYSTEMS

(Electronics and Communication Engineering)

| Time : 3 hours Max. | | | : 75 |
|---------------------|----|---|------------|
| | | Answer any Five Questions | |
| | | All Questions carry equal marks ***** | |
| 1 | a) | What are the different switching network Configurations? Compare their features | [8] |
| | b) | Explain in detail the blocking and non – blocking networks. | [7] |
| 2 | a) | What are the different configurations of Time multiplexed time Switch? | [8] |
| | b) | Explain the different modes of operation of Time division time switch? | [7] |
| 3 | a) | Explain the design of subscriber loops. | [7] |
| | b) | Explain in detail about Hierarchical routing | [8] |
| 4 | a) | Explain the concepts of grade of service and blocking probability. | [8] |
| | b) | Derive expression for the blocking probability of a TSST switch if each stage is individually non blocking. | [7] |
| 5 | a) | Define protocol? What are the differences between Connection oriented and Connection less protocols | [8] |
| | b) | Explain in detail the various components of Data communication network | [7] |
| 6 | a) | What is the need of Bridges and Explain the operation of source routing bridge | [7] |
| | b) | Compare the three networks LAN, WAN and MAN | [8] |
| 7 | a) | Explain the motivation and architecture of ISDN | [8] |
| | b) | Explain the differences between ISDN and BISDN | [7] |
| 8 | | Write short notes on the following | |
| | K | a) SONET | [5] |
| | | b) ADSLc) HFC networks | [5] [5] |
| | | | [J] |

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Set No. 4

IV B.Tech I Semester Regular Examinations, December 2013 TELECOMMUNICATION SWITCHING SYSTEMS

(Electronics and Communication Engineering)

| Time : 3 hours Max. Max. | | | 75 |
|--------------------------|----|---|-------------------|
| | | Answer any Five Questions | |
| | | All Questions carry equal marks **** | |
| 1 | a) | Explain in detail the elements of Switching System | [8] |
| | b) | Define and find the switching capacity and blocking probability for a two stage switching network with x – inlets and y – outlets. | [7] |
| 2 | | Explain the operation of Time division time switch. | [15] |
| 3 | a) | Explain about Numbering Plan and Charging plan for Telecommunication networks | [8] |
| | b) | Explain the operation two – wire to four – whe transformer. | [7] |
| 4 | | What is the need for in channel signaling and common channel signaling? | [8] |
| | b) | A telephone conversation is routed through four switching systems. Compare the times required to establish the call in the case of in channel signaling and CCS Systems given that Circuit switching time between exchanges = 1.5 s Signaling time between exchanges = 0.2 s, Dialing time = 5 s | |
| | | Circuit links can be set up in parallel in the case of CCS. | [7] |
| 5 | a) | Explain the need for layered network architecture | [7] |
| | b) | Explain the differences between blocking network and nonblocking network | [8] |
| 6 | a) | Explain all the seven layers of OSI model | [7] |
| | b) | Explain the concept of Virtual circuit switching and how it is different from circuit switching? | [8] |
| 7 | a) | Explain the various layers and frame format of ISDN model | [8] |
| 7 | Í. | Explain about HFC networks | [7] |
| 8 | | Write short notes on the following a) DOCSIS b) Gateways c) GOS | [5] [5] [5] |

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